

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of providing an advance screen saver warning for a display apparatus, the method comprising:

predetermining a screen saver standby time and an advance screen saver warning time;
counting a current system idle time during which no system input activity is detected; ~~and~~
activating an advance screen saver warning before activating a screen saver if the current system idle time is greater than or equal to a time difference between the screen saver standby time and the advance screen saver warning time, wherein the activated advance screen saver warning is continuously executed by the display apparatus until a detection of system activity, whereupon the advance screen saver warning is deactivated, and wherein the screen saver is activated only if the advance screen saver warning time is completed; and

controlling, during the continuous execution of the advance screen saver warning, the display apparatus to output at least one of a specified sound and a visual warning message window indicative of the time difference between the screen saver standby time and the advance screen saver warning time,

wherein the at least one of the specified sound and the visual warning message window is initiated based on the counting of said current system idle time and is deactivated by detection of system activity.

2. (Original) The method of claim 1, further comprising deactivating the advance screen saver warning and activating the screen saver if the current system idle time is greater than or equal to the screen saver standby time.

3. (Original) The method of claim 2, wherein the deactivating the advance screen saver warning and the activating the screen saver are performed simultaneously.

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) The method of ~~claim 5~~ claim 1, wherein the ~~remaining time~~ time difference between the screen saver standby time and the advanced screen saver warning time is calculated by subtracting the current system idle time from the screen saver standby time.

7. (Currently Amended) The method of ~~claim 5~~ claim 1, wherein the visual warning message window includes at least one of a textual representation and a graphical representation indicating the remaining time.

8. (Original) The method of claim 7, wherein the graphical representation included in the warning message window is any one of a bar-type graph, a clock-type graph with a moving indicator, and a pie-type graph.

9. (Currently Amended) The method of ~~claim 5~~ claim 1, wherein the visual warning message window is displayed on a predetermined screen portion of the display screen, which is automatically determined by default or is manually determined by an operator.

10. (Currently Amended) The method of ~~claim 5~~ claim 1, further comprising undisplaying visual the warning message window from the display screen if any system input activity is detected.

11. (Currently Amended) The method of ~~claim 5~~ claim 1, further comprising undisplaying the visual warning message window and activating the screen saver if the current system idle time is greater than or equal to the screen saver standby time.

12. (Currently Amended) The method of ~~claim 5~~ claim 1, wherein the visual warning message window is an on-screen-display (OSD) window.

13. (Cancelled)

14. (Currently Amended) The method of ~~claim 13~~ claim 1, wherein the ~~predefined warning-specified~~ sound is any one of a computer-generated sound and a human voice indicating a time remaining until the screen saver is activated.

15. (Original) The method of claim 1, wherein the screen saver standby time is a total length of system idle time that must elapse before activating the screen saver.

16. (Original) The method of claim 1, wherein the advance screen saver warning time is a length of time during which the advance screen saver warning is continuously activated before activating the screen saver.

17. (Original) The method of claim 1, wherein the screen saver standby time is predetermined to an automatically assigned default value or a manually selected value.

18. (Original) The method of claim 1, wherein the advance screen saver warning time is predetermined to an automatically assigned default value or a manually selected value.

19. (Original) The method of claim 1, wherein the system input activity includes at least one of a horizontal synchronization signal, a vertical synchronization signal, and a manual user input.

20. (Original) The method of claim 19, wherein the manual user input is made by a user through a keyboard or mouse.

21. (Currently Amended) A display apparatus for providing an advance screen saver warning, the apparatus comprising:

a parameter set unit for predetermining a screen saver standby time and an advance screen saver warning time;

a counter for counting a current system idle time during which no system input activity is detected; and

a controller, coupled to the parameter set unit and the counter, for activating an advance screen saver warning before activating a screen saver if the current system idle time is greater than or equal to a time difference between the screen saver standby time and the advance screen saver warning time,

wherein the activated advance screen saver warning is continuously executed by the display apparatus until a detection of system activity, whereupon the advance screen saver warning is deactivated, and

wherein the screen saver is activated only if the advance screen saver warning time is completed,

wherein, during the continuous execution of the advance screen saver warning, the display apparatus is controlled by said controller to output at least one of a specified sound and a visual warning message window indicative of the time difference between the screen saver standby time and the advance screen saver warning time, and

wherein the at least one of the specified sound and the visual warning message window is initiated based on the counter counting the current system idle time and is deactivated by detection of system activity.

22. (Original) The display apparatus of claim 21, wherein the controller further deactivates the advance screen saver warning and simultaneously activates the screen saver when the current system idle time is greater than or equal to the screen saver standby time.

23. (Cancelled)

24. (Cancelled)

25. (Currently Amended) The display apparatus of ~~claim 24~~ claim 21, wherein the controller calculates the ~~remaining~~ time difference between the screen saver standby time and the

advanced screen saver warning time by subtracting the current system idle time being counted by the counter from the screen saver standby time.

26. (Currently Amended) The display apparatus of ~~claim 24~~ claim 21, wherein the visual warning message window includes at least one of a textual representation and a graphical representation indicating the remaining time.

27. (Currently Amended) The display apparatus of claim 26, wherein the graphical representation included in the visual warning message window is any one of a bar-type graph, a clock-type graph with a moving indicator, and a pie-type graph.

28. (Currently Amended) The display apparatus of ~~claim 24~~ claim 21, wherein the visual warning message window is displayed on a predetermined screen portion of the display screen, the predetermined screen portion being automatically determined by the controller or being manually determined by an operator.

29. (Currently Amended) The display apparatus of ~~claim 24~~ claim 21, wherein the controller sends an interruption signal to the message window generator in order to undisplay the visual warning message window from the display screen when any system input activity is detected.

30. (Currently Amended) The display apparatus of ~~claim 24~~ claim 21, wherein the controller activates the screen saver and simultaneously sends an interruption signal to the message window generator in order to undisplay the visual warning message window when the current system idle time being counted by the counter is greater than or equal to the screen saver standby time.

31. (Currently Amended) The display apparatus of ~~claim 24~~ claim 21, wherein the message window generator is an on-screen-display (OSD) window generator, and the visual warning message window is an OSD window.

32. (Currently Amended) The display apparatus of claim 21, further comprising a speaker coupled to the controller for outputting a ~~predefined warning~~ the specified sound, wherein the ~~predefined warning~~ specified sound is any one of a computer-generated sound and a human voice indicating a time remaining until the controller activates the screen saver.

33. (Previously Presented) The display apparatus of claim 21, wherein the screen saver standby time predetermined by the parameter set unit is a total length of system idle time that must elapse before the controller activates the screen saver.

34. (Previously Presented) The display apparatus of claim 21, wherein the advance screen saver warning time is a length of time during which the controller continuously activates the advance screen saver warning before activating the screen saver.

35. (Previously Presented) The display apparatus of claim 21, further comprising a sync detector coupled to the controller for detecting at least one of a horizontal synchronization signal and a vertical synchronization signal, wherein the system input activity comprises the at least one of horizontal and vertical synchronization signals.

36. (Previously Presented) The display apparatus of claim 21, further comprising a key input unit coupled to the controller for receiving a manual user input from an operator, wherein the system input activity comprises the manual user input.

37. (Previously Presented) The display apparatus of claim 36, wherein the key input unit is any one of a keyboard or mouse.

38. (Previously Presented) The display apparatus of claim 21, further comprising a memory coupled to the controller for storing the predetermined screen saver standby time and advance screen saver warning time.

39. (Previously Presented) The display apparatus of claim 38, wherein the memory is an Electrically Erasable Programmable Read-only Memory (EEPROM).

40-43. (Canceled).

44. (New) The method of claim 1, wherein the predetermined screen saver standby time and advance screen saver warning time are manually set by a user of the display apparatus.

45. (New) The display apparatus of claim 21, wherein the predetermined screen saver standby time and advance screen saver warning time are manually set by a user of the display apparatus.

46. (New) A new method of providing and advance screen saver warning for a display apparatus, the method comprising:

- predetermining a screen saver standby time and an advance screen saver warning time;
- counting a current system idle time during which no system idle time exceeds a time difference calculated by subtracting the current system idle time from the screen saver standby time; and

- controlling, during a continuous execution of the advance screen saver warning, the display apparatus:

- to display a visual warning message window indicative of the time difference between the screen saver standby time and the advance screen saver warning time,

- to discontinue displaying the visual warning message window, if system input activity is detected before the advance screen saver warning time is completed, and

to discontinue displaying the visual warning message window and execute a screen saver program restricting system access by requiring system authorization, only if the advance warning time is completed by the currently idle time exceeding the screen saver standby time,

wherein the activated advance screen saver warning is continuously executed by the display apparatus until detection of the system activity, whereupon the advance screen saver warning is deactivated, and

wherein the visual warning message window is initiated based on said counting and is deactivated by the detection of the system activity.